

## **Introduction to the Wisconsin Healthy People 2010 Data Package (February, 2005 Edition)**

The content of the Wisconsin Healthy People 2010 Local Data Package was developed by the Bureau of Health Information and Policy in the Division of Public Health (DPH), and through suggestions provided by Terri Timmers, Director of the DPH Northern Regional Office, and other DPH regional directors in January, 2002. The Division of Public Health provided funds for developing the package in 2002, for the 2003 edition and for the 2005 edition.

The Bureau of Health Information and Policy produced the package. Anne Ziege, in the Population Health Information Section, produced the package under the general direction of Chris Hill-Sampson, Section Chief.

The Healthy People 2010 Local Data Package consists of Power Point files containing slides for each of the 72 Wisconsin counties. The slides provide bar and line graph representations of county data in relation to regional<sup>1</sup> and state-level data, and in relation to Healthy People 2010 federal targets. Objective areas include leading health indicators, mortality, environmental quality, socioeconomic factors, maternal and child health, injury and violence, and sexually transmitted diseases.

The majority of charts portray information that corresponds exactly to federal 2010 objectives in terms of units of measurement and other specifications, as stated in the publication *Healthy People 2010* (Volumes I and II; U.S. Department of Health and Human Services; November, 2000). Several charts provide information about other areas of concern to local health departments that do not correspond precisely to federal 2010 objectives.

In some cases, county-level data are not provided because numbers of cases are too small to compute rates or provide reliable estimates of percentages. In those cases, regional data are provided. *Detailed technical notes addressing data and related issues follow in a separate section of this document.*

The Wisconsin Behavioral Risk Factor Survey is managed by BHIP. Hospital inpatient data were managed by BHIP in 2002, but are now managed by the Wisconsin Hospital Association. Mortality and maternal and child health data were obtained using the BHIP-managed query system, WISH (Wisconsin Interactive Statistics on Health), which is based on birth and death files managed by BHIP. Socioeconomic data were downloaded from U.S. Census 2000 Web site files.

The following people outside BHIP provided data for this edition: Jeffrey Havlena, Division of Public Health, lead screening data; Alan Locke and Paul

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<sup>1</sup> The Department of Health and Family Services groups Wisconsin counties into five regions. See technical notes for further information.

Young, Division of Public Health, STD data; Mary Kunkel, Department of Transportation, motor vehicle crash data.

Comments, questions and requests for additional information may be addressed to:

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BHIP publications and more information about BHIP-managed data systems can be found at the following Web address: <http://dhfs.wisconsin.gov/stats/>

## **Technical Notes For the Wisconsin Healthy People 2010 Local Data Package February, 2005 Edition**

### ***Data Sources***

#### **The Wisconsin Behavioral Risk Factor Survey**

The Wisconsin BRFSS is part of the national Behavioral Risk Factor Surveillance System (BRFSS), an annual telephone-administered health survey coordinated by the U.S. Centers for Disease Control and Prevention. Wisconsin BRFSS data collection is managed by the DHFS Bureau of Health Information and Policy's Population Health Information Section. The BRFSS data used here are weighted to adjust for disproportionate sampling. Additional information about the Wisconsin BRFSS can be obtained from the BRFSS Coordinator, Anne Ziege (608-267-9821), or online at <http://dhfs.wisconsin.gov/stats/BRFS.htm>.

#### **Mortality: Wisconsin Resident Death Certificates**

The data source for mortality rates and statistics is resident death certificates filed with the State Registrar, Vital Records Section, Bureau of Health Information and Policy, Division of Public Health, Department of Health and Family Services, as mandated by Chapter 69 of the Wisconsin Statutes. Most resident deaths occur in Wisconsin, although the death file also includes certificates for Wisconsin residents who died in other states and countries. The Bureau of Health Information and Policy produces an annual report, *Wisconsin Deaths*, which provides key information about deaths of Wisconsin residents. This report is available online at <http://dhfs.wisconsin.gov/deaths/index.htm>. Additional information about mortality data can be obtained online at the same address or from Joyce Knapton (608-267-7815).

#### **Hospital Inpatient Discharge Data**

These data were formerly reported to the Department of Health and Family Services pursuant to Chapter 153, Wisconsin Statutes, and Chapter HFS 120, Wisconsin Administrative Code. By a change in statute effective January 1, 2004, the Wisconsin Hospital Association now collects, processes and disseminates hospital inpatient data. The reported information contains patient demographic data, admission and discharge data, charge and payer data, and diagnosis and procedure data. Data are reported by all of Wisconsin's acute care, non-federal hospitals, including general medical/surgical, psychiatric, AODA, rehabilitation and state institutions. The location referred to in county-level hospital data is that

of the hospital itself (as opposed to the patient's county of residence). Additional information about hospital inpatient data may be obtained from the Wisconsin Hospital Association (<http://www.wha.org>).

### **Maternal and Infant Health Data: Matched Birth-Infant Death File**

The source of birth data is resident birth certificates filed with the State Registrar, Vital Records Section, Bureau of Health Information and Policy (formerly BHI), Division of Public Health, Department of Health and Family Services, as mandated by Chapter 69 of the Wisconsin Statutes. Information collected includes: demographic characteristics of the mother, characteristics of pregnancy and delivery and characteristics of the newborn. The Matched Birth-Infant Death file contains information about infants who died before their first birthday. An annual report, *Wisconsin Births and Infant Deaths*, is available online at <http://dhfs.wisconsin.gov/births/index.htm>. Additional information about maternal and infant health data can be obtained online at the same address or from Laura Ninneman (608-266-2838).

### **U.S. Census Small Area Income and Poverty Data**

Poverty data were obtained from the *U.S. Census Small Area Income and Poverty Estimates/State and County Estimates* Web site. The county-level socioeconomic data presented are estimates derived from the 2000 Census Long Form Sample and refer to the previous year, i.e., 1999. Regarding poverty status, the Census Bureau states that:

"Poverty status is determined for all families (and, by implication, all family members). For persons not in families, poverty status is determined by their income in relation to the appropriate poverty threshold. Thus, two unrelated individuals living together may not have the same poverty status. The poverty thresholds are updated every year to reflect changes in the Consumer Price Index. See source for more details or see Poverty Definition, Thresholds, and Guidelines at <http://www.census.gov/hhes/www/poverty.html>."

### **Lead Screening Data (Children in Medicaid/WIC Screened for Lead)**

The Division of Public Health constructs the data file employed here by merging its lead testing file and the eligibility/enrollment files for Medicaid and WIC (Special Supplemental Nutrition Program for Women, Infants and Children). DPH views the results as reasonably accurate but likely to contain some unavoidable inaccuracies. Results presented here refer to children ages 0-5 who were eligible for Medicaid or WIC in a given year and who were tested during or prior to that year. The federal (not 2010) goal for lead screening is 100% of Medicaid/WIC children screened. Additional information about lead screening data can be obtained from Jeffrey Havlena, Division of Public Health (608-266-1826).

## **Sexually Transmitted Disease (STD) Data**

STD data are reported to the Division of Public Health by physicians and testing laboratories under a dual reporting system. DPH suggests that the numbers of cases for all sexually transmitted diseases (STDs) be viewed as approximate because of inconsistencies and other flaws in reporting and compliance. DPH attempts to resolve all apparent inconsistencies but does not guarantee complete accuracy of totals. Additional information about Wisconsin STD data can be obtained from Alan Locke, Division of Public Health (608-266-8479).

## **Motor Vehicle Crash Data**

Alcohol-related crash data were compiled from the WisDOT-DMV Traffic Accident Database. For additional information, contact Mary Kunkel at 608-267-5179, or access the Department of Transportation Web site at: <http://www.dot.wisconsin.gov/safety/motorist/crashfacts/>.

## ***Methodological Issues***

### **Number(s) of Cases**

The Bureau of Health Information and Policy adheres to a standard of a minimum of 50 cases for computation of age-adjusted rates and 100 cases for percentage estimates using survey data. The provision of county-level data is extremely challenging in view of the small numbers of cases available to analyze for the smallest counties, many of which consistently have fewer cases annually than the minimums noted above. BHIP routinely employs a variety of strategies to increase numbers of cases used in estimates; some of these strategies have been used to generate the measures appearing in the 2010 Local Data Package.

The BRFSS sample size increased from the mid-1990s through 2001, making it possible to present county-specific data for more counties, particularly for the most recent five-year period, 1998-2002. County-specific data are presented in the 2005 edition of the Local Data Package whether available for both 1993-2007 and 1998-2002 or only one of those time periods.

For time periods where fewer than 100 cases of BRFSS data are available for a county, only DHFS regional data are shown.

### **Age-Adjusted Rates**

Age adjustment of rates enables comparisons between groups or across geographic boundaries by removing the effects of differences in age distributions. Death rates in particular are greatly affected by age distributions of populations.

In keeping with current U.S. Department of Health and Human Services and Healthy People 2010 practices, all rates appearing in the charts are age-adjusted, using the direct method, to the year 2000 standard U.S. population. (Measures using percentages derived from BRFs data are not age-adjusted. See note below.) Age adjustment expresses every county's rates as if all had the same population age distribution – the year 2000 U.S. standard population distribution.

Rates were computed for 1993-1997 and 1998-2002 using Wisconsin population estimates for the midpoint of each five-year interval (1995 and 2000) and year 2000 age-adjustment weights. Rates were computed for: 1) county, region and state levels of aggregation for the total population for all charts except breast cancer mortality, and 2) separately for females at county, region and state levels of aggregation for breast cancer mortality.

Age-adjusted rates are shown for counties having 50 or more cases (deaths from a particular cause) across the five-year period of interest. Charts using data expressed as age-adjusted rates show only regional, state and 2010 federal targets for counties with fewer than 50 cases in the time period of interest.

It should be kept in mind, however, that 50 is the *minimum* acceptable number of cases, and rates computed for 50-100 cases may not be reliable. **Caution should be used in interpreting the age-adjusted rates shown for counties with small populations and, hence, small numbers of deaths by cause per year. Information on the exact number of deaths by cause for every county, by year, can be obtained from WISH, Wisconsin Interactive Statistics on Health, online at <http://dhfs.wisconsin.gov/wish/>. To obtain the numbers consistent with those in the Local Data Package (and federal Healthy People 2010 definitions), use the ICD 9/10 codes for causes of death shown in the next section.**

**Note:** BRFs percentage data in the section 'Leading Health Indicators' are not age-adjusted. If comparisons between two counties are made using these measures, differing county-level age distributions should be taken into account. For example, binge drinking is known to be more prevalent among young adult males than among older and female population subgroups. A county with a large proportion of older persons (and a higher proportion female) is likely to have a lower incidence of binge drinking than one with a large college-age population.

## **Selection of Cases for Mortality/Morbidity Data Sets Using ICD 9/10 Codes<sup>1</sup>**

### **A. Mortality**

Cases were selected from the Wisconsin mortality data files on the basis of underlying-cause-of-death codes as follows:

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<sup>1</sup> Source for the ICD codes used to define the causes of death: *Tracking Healthy People 2010*. U.S. Department of Health and Human Services. November, 2000.

*Coronary Heart Disease*

ICD-9 codes 402, 410-414, 429.2  
ICD-10 codes I20-I25.9

*Cerebrovascular Disease*

ICD-9 codes 430-438  
ICD-10 codes I60-I69

*Lung Cancer*

ICD-9 code I62  
ICD-10 codes C33-C34

*Breast Cancer*

ICD-9 codes I74-I75  
ICD-10 code C50

**B. Morbidity**

Asthma hospitalization cases were selected from the Wisconsin hospital inpatient data file using ICD-9 code 493.

***Additional Information About Charts***

**Mortality Due to Breast Cancer**

A large proportion of counties had fewer than 50 breast cancer deaths for one or both time periods of interest. Only regional and state rates appear in the bar charts for those counties. No mortality map is included for breast cancer due to the preponderance of counties for which age-adjusted rates could not be calculated; however, the breast cancer line charts show the absolute number of deaths for five separate years for all 72 counties.

**Regular and Vigorous Physical Activity**

The term “vigorous” denotes exercise at 50% of aerobic capacity or greater, as distinct from “moderate,” which denotes a lower level of exercise intensity.

The BRFSS questions used by the CDC to calculate physical activity level are asked every other year, rather than every year. Because of this, the number of cases is less than 100 for the majority of counties for the five-year periods of interest. Regional and state-level data are therefore presented for most counties on this measure.

## **Obesity and Overweight, 2000-2001**

The BRFSS variable used for this chart is calculated by the CDC using respondents' self-reports of height and weight. The present version of the calculated variable was new in 2000 and reflects the revised standard for overweight (Body Mass Index of 25.0 or greater).

Chart interpretation: Persons defined as obese are a subset of those who are overweight. In the Local Data Package, the total percent overweight is equal to the overweight category indicated on the chart plus the obese category on the chart. (For example, the total percent overweight in Wisconsin is 58%.)

The federal 2010 target for adults is stated in terms of obesity rather than overweight, as noted on the chart, and specifies adults 20 and older. The full Wisconsin BRFSS sample (ages 18 and older) contains an extremely small number of respondents under 20 and, at the regional and state levels, is virtually the same in its percentage distribution as the subset containing only adults 20 and older.

## **Median Income**

This chart shows median **household** income. For census purposes, household income is the total amount of income received from all sources by household members 15 and older in the previous year. Households include people living alone. Household members include people not related to the householder and others in non-family households.

The median is a measure of central tendency, specifically the midpoint of a set of values.

## ***Maps***

Cut-off points for color shadings were obtained by dividing each rate distribution into quartiles. Evaluative distinctions on the basis of map shadings are not intended. County and local health departments should use the 2010 targets, regional rates and state rates as bases of comparison.

## ***DHFS Regions and Associated Counties***

- **Northern:** Ashland, Bayfield, Iron, Florence, Forest, Langlade, Lincoln, Marathon, Oneida, Portage, Price, Sawyer, Taylor, Vilas, Wood



- **Southern:** Adams, Columbia, Crawford, Dane, Dodge, Grant, Green, Iowa, Juneau, Lafayette, Richland, Rock, Sauk
- **Western:** Barron, Buffalo, Burnett, Chippewa, Clark, Douglas, Dunn, Eau Claire, Jackson, La Crosse, Monroe, Pepin, Pierce, Polk, Rusk, St. Croix, Trempealeau, Vernon, Washburn *[Note: As of 2003, Vernon County was re-assigned to the Southern Region. It appears as part of the Western Region for data collected in 2002.]*
- **Northeastern:** Brown, Calumet, Door, Fond du Lac, Green Lake, Kewaunee, Manitowoc, Marinette, Marquette, Menominee, Oconto, Outagamie, Shawano, Sheboygan, Waushara, Waupaca, Winnebago
- **Southeastern:** Jefferson, Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, Waukesha

### ***Acronyms Used in the Technical Notes***

<b>BHIP</b>	Bureau of Health Information and Policy
<b>BRFS</b>	Behavioral Risk Factor Survey
<b>CDC</b>	(U.S.) Centers for Disease Control and Prevention
<b>DHFS</b>	Department of Health and Family Services
<b>DPH</b>	Division of Public Health
<b>STD</b>	Sexually Transmitted Disease
<b>WIC</b>	Special Supplemental Nutrition Program for Women, Infants and Children

## ***Finding Additional Data***

### **1. Data aggregated below the county level**

#### **WISH Query System** (Wisconsin Interactive Statistics on Health)

**WISH** is located on the Department of Health and Family Services site:

<http://dhfs.wisconsin.gov/wish/> It contains data on:

- Birth Counts
- Low Birthweight
- Teen Births
- Prenatal Care
- Fertility
- Infant Mortality
- Population
- Mortality
- Injury Mortality
- Injury Hospitalizations
- Injury Emergency Department Visits

WISH provides data tables at the health department, city and county levels of aggregation. Tables can be produced by demographic categories such as race/ethnicity and education level. WISH calculates confidence intervals for small-area percentage estimates. Questions about WISH may be directed to Karl Pearson, Wisconsin Bureau of Health Information and Policy, at 608-266-1920.

### **2. Demographic Information**

- **Demographic Services Center:** Wisconsin Department of Administration (DOA): [http://www.doa.state.wi.us/pagesubtext\\_detail.asp?linksubcatid=353](http://www.doa.state.wi.us/pagesubtext_detail.asp?linksubcatid=353)
- **U.S. Census Bureau :** <http://www.census.gov/>